

## CLAIMS

### WHAT IS CLAIMED IS:

1. A Li-ion secondary battery with double standard cells, including:
  - 5 a casing, having the same size as the size of the casing for double standard cells;  
two standard Li-ion cells, connected in parallel and installed inside the casing; and  
a printed circuit board, which is located inside the casing; also, a
  - 10 step-down circuit for stepping down the discharge voltage of the Li-ion cells, a charging circuit for charging the Li-ion cells, a protecting circuit for protecting the Li-ion cells, and a low-battery detecting circuit for detecting the power of the Li-ion cells are provided on the printed circuit board.
- 15 2. The Li-ion secondary battery with double standard cells as claimed in claim 1, wherein a charging slot is provided on the casing and connected to the charging circuit so that an adaptor inserted inside the charging slot can charge the Li-ion cells.
3. The Li-ion secondary battery with double standard cells as claimed in  
20 claim 1, wherein the standard cells are selected from either an AA standard cell or an AAA standard cell.
4. The Li-ion secondary battery with double standard cells as claimed in claim 1, wherein the discharge voltage of the Li-ion cells is between 3.6 and 4.2 volts, and the step-down circuit will step down the

discharge voltage of the Li-ion cells to at about 3 volts.

5. The Li-ion secondary battery with double standard cells as claimed in claim 1, wherein when the low-battery detecting circuit detects that the power of the Li-ion cells is running out, the step-down circuit will switch the voltage to a low voltage in order that the electronic product can sense the low voltage.
6. The Li-ion secondary battery with double standard cells as claimed in claim 5, wherein the step-down circuit will lower the voltage to a 2-volt low voltage.